AMENDMENTS TO THE CLAIMS

Please amend the claims as indicated below. Claims 1-20 are canceled without prejudice or disclaimer to the subject matter contained therein.

Claims 1-20 (canceled)

Claim 21 (new) A method for determining a three-dimensional surface of an object using a computer, the method comprising:

defining coordinates of a plurality of points on the surface of the object;

defining a three-dimensional matrix of cells that contains the object, each cell of the three-dimensional matrix of cells having a center, and a value being able to be associated with each cell of the three-dimensional matrix of cells;

determining a distance between the center of each cell of the three-dimensional matrix of cells and a closest point of the plurality of points on the surface of the object;

setting the value associated with each of a first portion of cells of the three-dimensional matrix of cells to a first preset value;

determining the value associated with each cell of the three-dimensional matrix of cells using the computer, with the exception of the first portion of cells, by means of the following formula

$$F(\bar{x}_i, t+1) = \frac{F(\bar{x}_i, t) \cdot v_i + w \cdot \sum_j F(\bar{x}_j, t) \cdot v_j}{v_i + w \cdot \sum_j v_j}$$

where

$\bar{x}_i$ represents coordinates of the center of the i_th cell,

$F(\bar{x}_i, t)$ represents the value of the i_th cell at time t,

v_i represents the distance,

w represents a second preset value, and

j indicates a neighbourhood of cells of the i_th cell;

determining a sum in modulus of a variation of the value associated with each cell between the time t and the time $t+1$; and

repeating said determining the value associated with each cell of the three-dimensional matrix of cells if the sum in modulus is greater than a third preset value.

Claim 22 (new) The method according to claim 21,

wherein each cell of the three-dimensional matrix of cells has a cubic shape.

Claim 23 (new) The method according to claim 21,

wherein each cell of the three-dimensional matrix of cells has a parallelepiped shape.

Claim 24 (new) The method according to claim 21,

wherein said determining the distance is by means of the following formula

$$|\bar{x}_i - \bar{p}|^\alpha$$

where

$\bar{x}_i$ represents the coordinates of the center of the i_th cell,

$\bar{p}$ represents coordinates of a point of the plurality of points on the surface of the object having a shortest distance from the center of the i_th cell, and

α represents a fourth preset value.

Claim 25 (new) The method according to claim 24,

wherein the fourth preset value α is between 1.5 and 2.5.

Claim 26 (new) The method according to claim 25,

wherein the fourth preset value α is 2.

Claim 27 (new) The method according to claim 21,

wherein said setting the value of the first portion of cells of the three-dimensional matrix of cells to a first preset value comprises setting to a value +1 all the values associated with cells at edges of the three-dimensional matrix of cells, and

wherein the value associated with each of a remainder of cells of the three-dimensional matrix of cells is set to a value -1.

Claim 28 (new) The method according to claim 21,

wherein the second preset value is between 0.1 and 0.9.

Claim 29 (new) The method according to claim 21,

wherein the index *j* represents a neighbourhood of cells contacting at least one of a face, a corner, and a vertex of the i_th cell.

Claim 30 (new) The method according to claim 21, further comprising

filtering the value associated with each cell of the three-dimensional matrix of cells by multiplying the value associated with each cell of the three-dimensional matrix of cells by a fifth preset value.

Claim 31 (new) The method according to claim 21, further comprising

multiplying the distance determined in said determining the distance cyclically along three spatial axes by a multiplicative coefficient.

Claim 32 (new) The method according to claim 21,

wherein said defining the coordinates of the plurality of points on the surface of the object further comprises subdividing the object into at least two distinct parts, each cell of the three-dimensional matrix of cells belonging to at least one distinct part of the at least two distinct parts,

wherein said determining the value associated with each cell of the three-dimensional matrix of cells comprises determining a value for each cell of the three-dimensional matrix of

cells for each of the at least two distinct parts, and

wherein the value associated with a cell of the three-dimensional matrix of cells belonging to two distinct parts of the at least two distinct parts is a lower value of respective values determined for the cell for the two distinct parts.

Claim 33 (new) A computer-readable storage medium storing a computer program for causing a computer to execute the method according to claim 21.

Claim 34 (new) A computer-readable storage medium storing a computer program for causing a computer to execute the method according to claim 22.

Claim 35 (new) A computer-readable storage medium storing a computer program for causing a computer to execute the method according to claim 23.

Claim 36 (new) A computer-readable storage medium storing a computer program for causing a computer to execute the method according to claim 24.

Claim 37 (new) A computer-readable storage medium storing a computer program for causing a computer to execute the method according to claim 25.

Claim 38 (new) A computer-readable storage medium storing a computer program for causing a computer to execute the method according to claim 27.

Claim 39 (new) A computer-readable storage medium storing a computer program for causing a computer to execute the method according to claim 28.

Claim 40 (new) A computer-readable storage medium storing a computer program for causing a computer to execute the method according to claim 29.